BEFORE THE DEPARTMENT OF ENVIRONMENTAL QUALITY
OF THE STATE OF MONTANA

In the matter of the amendment of ARM 17.50.403 and 17.50.502, pertaining to definitions of solid waste management, and the adoption of a new subchapter codifying New Rules I through XIV for landfarm facility standards and the adoption of a new subchapter codifying New Rules XV through XXVI for compost standards and definitions	NOTICE OF PUBLIC HEARING ON PROPOSED AMENDMENT AND ADOPTION (SOLID WASTE MANAGEMENT)

TO: All Concerned Persons

1. On January 27, 2017, at 1:30 p.m., the Department of Environmental Quality will hold a public hearing in Room 111, Metcalf Building, 1520 East Sixth Avenue, Helena, Montana, to consider the proposed amendment and adoption of the above-stated rules.

2. The department will make reasonable accommodations for persons with disabilities who wish to participate in this public hearing or need an alternative accessible format of this notice. If you require an accommodation, contact Denise Hartman, Administrative Rules Coordinator, no later than 5:00 p.m., January 19, 2017, to advise us of the nature of the accommodation that you need. Please contact Denise Hartman at Department of Environmental Quality, P.O. Box 200901, Helena, Montana 59620-0901; phone (406) 444-2630; fax (406) 444-4386; or e-mail dhartman2@mt.gov.

3. The rules proposed to be amended provide as follows, stricken matter interlined, new matter underlined:

17.50.403 DEFINITIONS Unless the context requires otherwise, in this subchapter the following definitions apply:

(1) "Aerobic" means occurring in the presence of oxygen.

(1) and (2) remain the same, but are renumbered (2) and (3).

~~(3) "Co-composting" means the simultaneous composting of two or more diverse waste streams.~~

(4) through (6) remain the same.

(7) "Custom exempt butcher operation" means a processor that only processes meat that is not sold and is only consumed by:

(a) the owner of the animal;

(b) the owner's immediate family; or

(c) non-paying guests.

(7) through (10) remain the same, but are renumbered (8) through (11).

(12) "Feedstock" means any decomposable material used in the manufacture of compost.

(13) "Floodplain" means the lowland and relatively flat areas adjoining inland waters, including flood-prone areas that are inundated by the 100-year flood, including an area designated as a "floodplain," "flood zone," or "special flood hazard area" by a state or federal agency.

(11) and (12) remain the same, but are renumbered (14) and (15).

(16) "Infectious waste" has the meaning specified in 75-10-1003, MCA.

(13) through (15) remain the same, but are renumbered (17) through (19).

~~(16)~~ (20) "Intermediate landfarm facility" means a landfarm facility that has more than ~~1,600~~ 2,400 cubic yards but less than 8,000 cubic yards of contaminated soil, from single or multiple events, undergoing treatment and accepted for treatment at the facility at any time during a calendar year.

(17) remains the same, but is renumbered (21).

(19) through (21) remain the same, but are renumbered (22) through (24).

~~(18)~~ (25) "~~Large~~ Major composter ~~operation~~ facility" means a composting ~~operation~~ facility that ~~does not meet the definition of small composter operation. Co-composters and facilities that accept sewage sludge for composting are large composter operations.~~:

(a) meets any of the following criteria:

(i) has greater than two acres of active working area;

(ii) accepts 5,000 cubic yards or more of composting feedstock annually; or

(iii) produces 2,500 cubic yards or more of finished compost annually; or

(b) accepts:

(i) sewage sludge, biosolid, or septage for composting; or

(ii) 200 tons or more of offal from custom exempt butcher operations.

(22) through (26) remain the same, but are renumbered (26) through (30).

~~(44)~~ (31) "~~Small~~ Minor composter ~~operation~~ facility" means a composting ~~operation~~ facility that does not meet the definition of a major compost facility and that:

(a) meets all of the following criteria:

(i) has ~~less than~~ two acres or less of active working area;

~~(b)~~ (ii) accepts less than ~~10,000~~ 5,000 cubic yards of compost feedstock annually; and

~~(c)~~ (iii) produces less than ~~1,000 tons~~ 2,500 cubic yards of finished compost annually; ~~and either:~~

~~(i) accepts primarily yard waste, with a maximum of 25% barn or farm waste, by weight; or~~

~~(ii) accepts primarily farm or barn waste generated on-site.~~

(b) does not accept sewage sludge, biosolids, or septage; or

(c) accepts less than 200 tons of offal from custom exempt butcher operations.

(27) remains the same, but is renumbered (32).

~~(28)~~ (33) "Minor landfarm facility" means a landfarm facility that has up to ~~1,600~~ 2,400 cubic yards of contaminated soil from single or multiple events either undergoing treatment or accepted for treatment at the facility.

(29) through (31) remain the same, but are renumbered (3~~4~~) through (36).

~~(32)~~ (37) "One-time landfarm" means a landfarm facility for the remediation of less than ~~1,600~~ 2,400 cubic yards of non-hazardous contaminated soil generated

from a single ~~event, regardless of the~~ source that will not be used to treat contaminated soil from multiple sources on an on-going basis.

(33) through (43) remain the same, but are renumbered (38) through (48).

(49) "Sewage sludge" or "septage" has the meaning specified in ARM 17.50.802.

(45) and (46) remain the same, but are renumbered (50) and (51).

(52) "Source" means the facility or origin of release that created contaminated soil.

(47) through (53) remain the same, but are renumbered (53) through (59).

(60) "Waste generation" means the act or process of producing waste materials.

(54) remains the same, but is renumbered (61).

AUTH: 75-10-106, 75-10-115, 75-10-204, 75-10-221, MCA
IMP: 75-10-115, 75-10-221, MCA

REASON: The department is proposing to: delete ARM 17.50.403(3); amend ARM 17.50.403(16) renumbered as (20), (18) renumbered as (25), (28) renumbered as (33), (32) renumbered as (37), and (44) renumbered as (50); and add definitions (1), (7),(12), (13),(16), (49), (52), and (61) to coordinate and clarify the definitions necessary for licensure and regulation of composting facilities throughout the administrative rules regulating solid waste management facilities. ARM 17.50.403(7) is proposed because the livestock and custom butcher industries need a convenient, socially and environmentally acceptable, bio-secure way to dispose of carcasses and butcher residuals. In Montana, the lack of local rendering plants and declines in the prices of useful commodities produced from animal carcasses have resulted in the loss of an affordable option for the disposal of butcher wastes. In most cases, the cost of transportation and tipping fees makes landfill disposal cost prohibitive. Composting is an acceptable way of managing these materials and provides an inexpensive alternative for managing dead animals, butcher waste, and other biological residuals. The temperatures achieved during composting will kill most pathogens, reducing the spread of disease. Properly composted material is environmentally safe and a valuable soil amendment for growing certain crops. The limit of 200 tons was mathematically derived working with figures provided by the Montana Department of Livestock. Tonnage is the standard unit for carcasses and butcher residuals.

The department is also proposing to amend the definitions ARM 17.50.403(16) renumbered as (20), (28) renumbered as (33), and (32) renumbered as (37) to reflect a need to increase the size of facilities used primarily to treat contaminated soils from underground storage tank remediation or other small volume cleanup activities. A recent department analysis examined 39 sources of releases where excavation occurred from the years 2003 through 2015 and found that 61 percent of cleanup activities fell below 2,400 cubic yards of material. The proposed increase will allow larger cleanups to take place at one facility under consistent operational and management requirements for minor, intermediate, major, and one-time landfarm facilities.

ARM 17.50.403(44) is renumbered to (25). Subsection (b) is changed from 10,000 cubic yards to 5,000 cubic yards of compost feedstock because the lower amount is a more accurate representation of the amount of compost feedstock accepted in Montana facilities. At this time, there are no facilities in Montana that accept more than 5,000 cubic yards annually. Subsection (c) is proposed to be changed from 1,000 to 2,500 cubic yards since this measurement more accurately depicts 50 percent of the number represented in (b), which is what would be expected to be finished compost on an annual basis.

The department is proposing to add the definition in ARM 17.50.403(52), clarifying the term "source" to ensure one-time landfarms accept only non-hazardous contaminated soil generated from a single source and to ensure soil from multiple sources will not be treated collectively on an on-going basis.

The new definitions proposed under ARM 17.50.403 represent the department's review and consideration of regulations adopted in other states and federal definitions. The proposed new definitions also reflect the general guidelines and model rule template proposed by the U.S. Composting Council. Composting involves complex biological processes and the proposed definitions are necessary to clarify the scope of the rules and to ensure the rules are protective of human health and the environment. Measurements of tonnage are based upon bulk density, which varies depending on moisture content and compost material. Different compost loads require varying amounts of space if the loads have different densities even if the tonnage is identical. Cubic yards more accurately depict the actual quantity of material compared to tonnage measurements.

17.50.502 DEFINITIONS In addition to the definitions in 75-10-203, MCA, the following definitions apply to this subchapter:

(1) through (11) remain the same.

(12) "Floodplain" ~~means the lowland and relatively flat areas adjoining inland waters, including flood-prone areas, that are inundated by the 100-year flood~~ has the meaning specified in ARM 17.50.403.

(13) through (42) remain the same.

AUTH: 75-10-204, MCA
IMP: 75-10-204, MCA

REASON: The department is proposing to coordinate definitions throughout the solid waste rules. The department is proposing to also include an area designated as a floodplain, flood zone, or special flood hazard area by a state or federal agency to more accurately capture areas that are floodplains.

4. The proposed new rules for a new landfarm subchapter provide as follows:

NEW RULE I LANDFARM FACILITY APPLICABILITY AND SCOPE

(1) This subchapter applies to:

(a) landfarm facilities as defined under ARM 17.50.403.

(2) Landfarm facilities located within the property boundary of a licensed Class II landfill facility do not require a separate landfarm license, but must be noted in the department-approved Operation and Maintenance Plan and be operated according to the requirements of this subchapter.

(3) Existing licensed landfarm facilities must comply with the provisions of the landfarm rules within six months of [the effective date of these rules].

AUTH: 75-10-204, MCA
IMP: 75-10-204, MCA

REASON: Section 75-10-204, MCA, authorizes the department to adopt rules implementing the Montana Solid Waste Management Act (MSWMA). Landfarm facilities are operations that treat contaminated soil from tank clean-ups, releases, etc., to a standard whereby the treated soil may be used for beneficial purposes and not contribute to the volume of wastes disposed of in Class II landfills. The department is proposing NEW RULE I to identify facilities that are subject to protective regulatory requirements. For landfarm facility applicability and scope, there is no comparable federal regulation or guideline addressing the same circumstances; therefore, the requirements of 75-10-107, MCA, do not apply.

NEW RULE II DEFINITIONS In this subchapter, the following terms shall have the meanings, interpretations, or acronyms provided below:

(1) "1,2 DCA" means 1,2-dichloroethane.

(2) "1,2 EDB" means 1,2-dibromoethane.

(3) "Below treatment zone" or "BTZ" means the undisturbed natural soil within the treatment cell of a landfarm facility that directly underlies the treatment zone to a depth of 3 feet.

(4) "Bioremediation" is the treatment of pollutants or waste (as in an oil spill, contaminated ground water, or an industrial process) by the use of microorganisms (as bacteria) to break down undesirable substances.

(5) "BTEX" means benzene, toluene, ethylbenzene, and xylene.

(6) "C:N:P" means carbon to nitrogen to phosphorus ratio.

(7) "Contaminated soil" has the meaning specified in ARM 17.50.502.

(8) "EPH" means extractable petroleum hydrocarbon.

(9) "Intermediate landfarm facility" has the meaning specified in ARM 17.50.403.

(10) "Landfarm facility" has the meaning specified in ARM 17.50.403.

(11) "Major landfarm facility" has the meaning specified in ARM 17.50.403.

(12) "Minor landfarm facility" has the meaning specified in ARM 17.50.403.

(13) "MTBE" means methyl tert-butyl ether.

(14) "One-time landfarm" has the meaning specified in ARM 17.50.403.

(15) "Remediation" means the act of reducing contamination to a level that is protective of human health and the environment.

(16) "TCLP" means toxicity characteristic leaching procedure.

(17) "TPH" means total petroleum hydrocarbon.

(18) "Treatment cell" means the prepared area of a landfarm facility where

contaminated soil is undergoing remediation.

(19) "Treatment season" means April through October unless otherwise specified by the department.

(20) "Treatment zone" or "TZ" means the total space within a treatment cell that contains the contaminated soils that are being remediated. The treatment zone includes the contaminated soils applied to the treatment cell and any material incorporated into them.

(21) "Unstable area" has the meaning specified in ARM 17.50.1002.

(22) "Uppermost aquifer" has the meaning specified in ARM 17.50.1102.

(23) "VPH" means volatile petroleum hydrocarbon.

AUTH: 75-10-204, MCA
IMP: 75-10-204, MCA

REASON: The department is proposing NEW RULE II to further define specific terms used in the licensing and regulation of soil treatment facilities to help the regulated community better understand requirements and stay in compliance with the proposed rules regarding landfarms.

NEW RULE III LANDFARM FACILITY LICENSE APPLICATION (1) A person may not construct, expand, or operate a landfarm facility after [the effective date of these rules] without a landfarm license from the department, except as provided in [NEW RULE I](2).

(2) An applicant for a landfarm facility license shall submit an application to the department on a form provided by the department.

(3) An applicant for a landfarm facility license shall submit the following application materials:

(a) name and mailing address of the proposed facility owner/operator;

(b) name and mailing address of the landowner where the facility will be located;

(c) documentation of the applicant's ownership of the property or documentation demonstrating that the applicant has the right to operate a solid waste management system on the property;

(d) applicant must provide signed documentation granting access to the property by the department, private contractors, and the facility owner/operator to perform activities associated with approved facility operations of the landfarm;

(e) proposed facility name, mailing address, legal location, and property geocode;

(f) total acreage of the proposed facility and acreage to be used for treatment cells;

(g) location of any lakes, rivers, streams, springs, or bogs, on-site or within one mile of the facility boundary;

(h) hydrogeological, and soils characterization information required in ARM 17.50.1311(2);

(i) present uses of property within one mile of the proposed facility boundary and the property owners' names and current addresses;

(j) certification that there are no local government zoning restrictions or ordinances that prohibit the proposed activity at the proposed site;

(k) regional map(s), with a minimum scale of 1:62,500 and a minimum size of 8 1/2 inches by 11 inches, that delineate(s) the following:

(i) the location of the closest population centers; and

(ii) the local transportation systems, including highways, airports, bridges, and railways;

(l) vicinity map(s), with a minimum scale of 1:24,000 and a minimum size of 8 1/2 inches by 11 inches, that delineate(s) the following within one mile of the facility boundaries:

(i) zoning, existing, and allowed land use;

(ii) property boundaries and residences within one mile of the proposed site;

(iii) surface waters;

(iv) floodplain map;

(v) historic sites; and

(vi) other existing and proposed artificial or natural features relating to the project;

(m) site plan(s), with a minimum scale of 1:24,000 with five-foot contour intervals and a recommended minimum size of 8 1/2 inches by 11 inches, that delineate(s) the following within, or associated with, the facility:

(i) proposed waste management areas and license boundaries;

(ii) the location of existing and proposed:

(A) soil borings;

(B) monitoring wells;

(C) buildings and appurtenances;

(D) fences;

(E) gates;

(F) roads;

(G) parking areas;

(H) drainages;

(I) culverts;

(J) storage facilities or areas;

(K) loading areas;

(L) existing and proposed elevation contours;

(M) the location, within one mile of the proposed licensed boundary, of potable wells, surface water bodies, and drainage swales;

(N) direction of prevailing winds;

(O) other maps and drawings related to the design or environmental impact of the proposed facility if requested by the department;

(P) name and address of individual operator;

(Q) proposed operation and maintenance plan;

(R) closure and post-closure care plans;

(S) other information necessary for the department to comply with the Montana Environmental Policy Act or "MEPA," Title 75, chapter 1, parts 1 through 3, MCA;

(4) An applicant shall submit with the application a copy of a proposed policy of general liability insurance to cover bodily injury or property damage to third

persons caused by sudden accidental occurrences at the facility that meet the requirements of ARM 17.50.1114.

(5) In addition to the materials required in (2) through (4), an applicant for a minor, intermediate, or major landfarm facility license shall also submit:

(a) technical design specifications;

(b) construction plans; and

(c) a detailed site plan that includes:

(i) information concerning any material that will be used to construct a liner or berm, including but not limited to:

(A) type, quantity, and source;

(B) compaction density;

(C) moisture content;

(D) design permeability; and

(E) liner construction quality assurance and quality control (QA/QC) plans;

(ii) design and location of any proposed storage or treatment areas;

(iii) design and location of any liquid containment or storage structures; and

(iv) design, location, and grades of any surface water diversion and drainage structures.

(6) In addition to the materials required in (2) through (4), an applicant for a one-time landfarm facility license shall submit the following application materials:

(a) name and address of the proposed facility owner/operator;

(b) name and address of the landowner where the facility will be located;

(c) documentation of the applicant's ownership of the property or documentation demonstrating that the applicant has the right to operate a solid waste management system on the property;

(d) total acreage of the proposed facility and dimensions of the treatment cell;

(e) location of any surface water bodies, including intermittent drainages and floodplains, on-site or within one mile of the facility boundary;

(f) legal description of the site to the nearest quarter-quarter section;

(g) depth to ground water, source of ground water information, and copies of logs from ground water wells within one-mile of the proposed facility;

(h) location of public water supplies within five miles of the proposed facility;

(i) results of background soil sampling;

(j) estimated volume and characterization of soils to be landfarmed at the proposed facility including:

(i) cause of soil contamination;

(ii) analytical results;

(iii) proposed date soils will be applied to landfarm site;

(iv) current use of proposed landfarm site; and

(v) proposed use of site after treatment is completed;

(k) summary of the proposed facility operations and maintenance plan that includes the following:

(i) soil tilling schedule;

(ii) number and frequency of soil sampling activities;

(iii) proposed fertilizer, moisture, or other remediation-enhancing product additions; and

(iv) propose site reclamation and closure activities;

(l) vicinity map(s), with a minimum scale of 1:24,000 and a minimum size of 8 1/2 inches by 11 inches, that delineate(s) the following within one mile of the facility boundaries:

(i) zoning, existing, and allowed land uses;
(ii) residences;
(iii) surface waters;
(iv) access roads;
(v) bridges;
(vi) railroads;
(vii) airports;
(viii) historic sites; and
(ix) other existing and proposed artificial or natural features relating to the project;

(m) site plan(s), with a minimum scale of 1:24,000 with five-foot contour intervals and a minimum size of 8 1/2 inches by 11 inches, that delineate(s) the following within, or associated with, the facility:

(i) proposed waste and licensed boundaries;
(ii) the location of existing and proposed buildings and appurtenances, including:

(A) fences;
(B) gates;
(C) roads;
(D) parking areas;
(E) drainages;
(F) culverts;
(G) storage facilities or areas; and
(H) loading areas; and
(n) closure and post-closure care plan.

AUTH: 75-10-204, MCA
IMP: 75-10-204, MCA

REASON: Proposed NEW RULE III sets requirements for landfarm facility licensing to ensure facilities are licensed properly and follow the pertinent requirements according to their facility type. Section 75-10-204, MCA, authorizes the department to adopt rules implementing the MSWMA. Landfarm facilities are operations that treat contaminated soil from tank clean-ups, releases, etc., to a standard whereby the treated soil may be used for beneficial purposes and not contribute to the volume of wastes disposed of in class II landfills.

The department is proposing timelines for implementing new landfarm rules to let the regulated community know when they need to be in compliance with the proposed rules. The department is proposing new rules to reflect the changes in solid waste management practices since solid waste rules were first initiated and to better protect human health and the environment. The department believes that regulation of landfarming activities in a single program will provide consistent regulatory framework and oversight for the regulated community.

Proposed NEW RULE III is necessary to codify landfarm facility licensing that

has been implemented as policy since 1997. The proposed rule codifies these policies and was developed following a review of the department's actions in coordination with the Montana DEQ's Solid Waste Advisory Committee. For landfarm facility licensing, there is no comparable federal regulation or guideline addressing the same circumstances, so the requirements of 75-10-107, MCA, do not apply.

NEW RULE IV SITING STANDARDS FOR LANDFARM FACILITIES

(1) The owner or operator of a landfarm facility that is not a one-time landfarm facility shall meet the following siting requirements. Treatment cells must be located:

(a) more than 1,000 feet from domestic water wells;

(b) more than 500 feet from any residential property boundary;

(c) at least 150 feet from the high water mark of surface water, including an intermittent drainage and floodplain;

(d) with at least 25 feet of vertical separation between the base of the treatment zone and the seasonally high water level of the uppermost aquifer beneath the facility; and

(e) at least 200 feet (60 meters) from an unstable area, unless the owner or operator of a landfarm facility makes a written demonstration to the department that an alternative setback distance of less than 200 feet (60 meters) will prevent damage to the structural integrity of the treatment unit and will be protective of human health and the environment.

(2) The owner or operator of a landfarm facility that is not a one-time landfarm facility may not, without written approval by the department, construct a facility at a site where the depth to the uppermost aquifer's seasonally high water level is less than or equal to 25 feet.

(3) If the owner or operator is proposing to construct a landfarm facility that is not a one-time landfarm facility at a site where the depth to the uppermost aquifer's seasonally high water level is greater than 25 feet, but less than 50 feet, the owner or operator shall submit a ground water sampling and analysis plan that includes:

(a) design and location of the monitoring wells;

(b) sampling procedures;

(c) potential contaminants to be analyzed in the ground water samples; and

(d) any other information determined by the department to be necessary to protect human health or the environment.

AUTH: 17-50-204, MCA
IMP: 17-50-204, MCA

REASON: Proposed NEW RULE IV sets requirements for siting standards for landfarm facilities to ensure protection of human health and the environment. Section 75-10-204, MCA, authorizes the department to adopt rules implementing the MSWMA. Landfarm facilities are operations that treat contaminated soil from tank clean-ups, releases, etc., to a standard whereby the treated soil may be used for beneficial purposes and not contribute to the volume of class II landfills.

Proposed NEW RULE IV is necessary to codify landfarm facility siting standards that have been implemented as policy since 1997. The proposed rule codifies these policies and was developed following a review of the department's actions in coordination with the Montana DEQ's Solid Waste Advisory Committee. For siting standards for landfarm facilities, there is no comparable federal regulation or guideline addressing the same circumstances, so the requirements of 75-10-107, MCA, do not apply.

NEW RULE V SITING STANDARDS FOR ONE-TIME LANDFARMS

(1) The owner or operator of a one-time landfarm facility shall meet the following siting requirements. Treatment cells must be located:

(a) more than 1,000 feet from domestic water wells;

(b) more than 500 feet from any residential property boundary; and

(c) at least 150 feet from the high water mark of surface water, including an intermittent drainage and floodplain; and

(d) with at least 25 feet of vertical separation between the base of the treatment zone and the seasonally high water level of the uppermost aquifer beneath the facility.

(2) A one-time landfarm facility may not be constructed at a site where the depth to the uppermost aquifer's seasonally high water level is less than or equal to 25 feet without prior written approval by the department.

AUTH: 17-50-204, MCA
IMP: 17-50-204, MCA

REASON: Proposed NEW RULE V sets requirements siting standards for one-time landfarm facilities to ensure protection of human health and the environment. Section 75-10-204, MCA, authorizes the department to adopt rules implementing the MSWMA. Landfarm facilities are operations that treat contaminated soil from tank clean-ups, releases, etc., to a standard whereby the treated soil may be used for beneficial purposes and not contribute to the volume of class II landfills.

Proposed NEW RULE V is necessary to codify one-time landfarm facility siting standards that have been implemented as policy since 1997. The proposed rule codifies these policies and was developed following a review of the department's actions in coordination with the Montana DEQ's Solid Waste Advisory Committee. For siting standards for one-time landfarm facilities, there is no comparable federal regulation or guideline addressing the same circumstances, so the requirements of 75-10-107, MCA, do not apply.

NEW RULE VI DESIGN CRITERIA FOR LANDFARM FACILITIES (1) An owner or operator may not use a soil treatment cell at a landfarm facility unless it meets the standards provided in [NEW RULE IX].

(2) The owner or operator of a landfarm facility shall ensure that:

(a) the basal slope for any treatment cell does not exceed two percent; and

(b) storm water run-on and run-off controls are provided for flow volume up to the 24-hour, 25-year storm event.

(3) The owner or operator of a minor, intermediate, or major landfarm facility may accept wastes that fail the paint filter liquids test, as described in [NEW RULE VIII], if:

(a) the owner or operator has obtained department approval;

(b) the liquid wastes are immediately placed in a lined treatment cell designed and constructed pursuant to (1)(b); and

(c) the liner has a hydraulic conductivity less than or equal to 1×10^{-5} cm/sec.

AUTH: 75-10-204, MCA
IMP: 75-10-204, MCA

REASON: Proposed NEW RULE VI sets requirements for design criteria for landfarm facilities to ensure protection of human health and the environment. Section 75-10-204, MCA, authorizes the department to adopt rules implementing the MSWMA. Landfarm facilities are operations that treat contaminated soil from tank clean-ups, releases, etc., to a standard whereby the treated soil may be used for beneficial purposes and not contribute to the volume of class II landfills.

Proposed NEW RULE VI is necessary to codify landfarm facility siting standards that have been implemented as policy since 1997. The proposed rule codifies these policies and was developed following a review of the department's actions in coordination with the Montana DEQ's Solid Waste Advisory Committee. For design criteria for landfarm facilities, there is no comparable federal regulation or guideline addressing the same circumstances, so the requirements of 75-10-107, MCA, do not apply.

NEW RULE VII OPERATION AND MAINTENANCE PLAN FOR LANDFARM FACILITIES (1) Prior to accepting contaminated soils, the owner or operator of a soil treatment facility shall submit to the department for approval an operation and maintenance plan that includes the following information:

(a) background soil sampling results for the BTZ soils;

(b) for the TZ and BTZ soil:

(i) sample collection procedures;

(ii) sample collection frequency;

(iii) analytical parameters and procedures;

(iv) chain-of-custody control; and

(v) quality assurance and quality control plan;

(2) Prior to application of any stockpiled or stored contaminated soils in a treatment cell, the owner or operator of a landfarm facility shall submit to the department for approval the contaminated soil analytical data collected and analyzed for TPH, EPH, VPH, TCLP metals, BTEX, MTBE, and any other contaminants determined by the department to be necessary to protect human health and the environment.

(3) The owner or operator of a landfarm facility shall place contaminated soils that do not have the required documentation in (2) in a bermed treatment cell or in

an approved designated stockpile or storage area for sampling and analysis to determine the characteristics of the soil contamination and physical soil properties.

(4) A designated stockpile or storage area for contaminated soils located outside of a treatment cell must:

(a) be approved by the department prior to the stockpiling or storage of any contaminated soils;

(b) meet the requirements of [NEW RULE VI]; and

(c) provide for surface water run-on and run-off controls to collect and control at least the water volume resulting from a 24-hour, 25-year storm event.

(5) The owner or operator of a landfarm facility using a stockpiling or storage area that is unlined shall, upon removal of the stockpiled or stored soil, sample the BTZ of the area for contaminant infiltration.

(6) Pursuant to the sampling required in (5), the owner or operator shall:

(a) collect and analyze, for the contaminants listed in [NEW RULE IX], one composite sample per 1/2 acre of the stockpile or storage area; and

(b) produce each composite sample by combining five subsamples.

(7) For contaminated soils that are newly applied on a treatment cell, the owner or operator shall:

(a) collect at least one composite sample consisting of five subsamples per composite for each 200 cubic yards of contaminated soil from the same contaminant source; and

(b) analyze the composite samples for contaminants suspected to be in the soil and the contaminants listed in [NEW RULE IX].

(8) After departmental approval has been granted, the owner or operator of a landfarm facility may place newly accepted contaminated soils in a treatment cell with similar types of contaminants (i.e., gasoline, diesel), if:

(a) newly accepted contaminated soils are segregated from the existing contaminated soils; and

(b) each distinct treatment zone in the treatment cell can be easily identified.

(9) The owner or operator of a landfarm facility shall manage each treatment zone, as follows:

(a) contaminated soil must be applied in lifts less than or equal to one foot depending on the capability of the tilling equipment;

(b) contaminated soil must be tilled (when soils are not frozen) twice during the first month on the treatment cell, and at least monthly thereafter;

(c) tillage must occur at the full depth of the treatment zone; and

(d) cobbles, boulders, rocks, debris, or other consolidated materials that impede soil mixing and passage of air or water through the soil or damage tillage equipment must be removed.

(10) The owner or operator of a landfarm facility shall monitor the remediation of contaminated soil by:

(a) collecting representative soil samples from the TZ during April, July, and October, or according to an alternative schedule approved by the department, in the following manner:

(i) one composite sample must be collected per one-half acre from the TZ of each treatment cell;

(ii) each composite sample must be composed of five subsamples;

(iii) all subsamples must be from the same treatment cell;

(iv) at least one composite sample must be collected from each treatment cell; and

(v) sampling activities must protect the liner of the treatment cell, and must not open a contaminant migration pathway;

(b) analyzing the soil samples for TPH, EPH, VPH, TCLP metals, BTEX, MTBE, naphthalene and for gasoline releases before 1996 sample for lead scavengers 1,2 DCA & 1,2 EDB and any other contaminants determined by the department to be necessary to protect human health and the environment;

(c) in addition to the sampling required in (10)(a), analyzing the representative soil samples collected from the TZ during April and making adjustments to maintain optimum bioremediation conditions for all types of contaminated soils under treatment for the following parameters:

(i) organic carbon to available nitrogen to phosphorous ratio (C:N:P);

(ii) moisture content;

(iii) soil pH;

(iv) temperature; and

(d) while sampling, protecting the liner of the treatment cell and preventing the creation of a contaminant migration pathway;

(e) analyzing the soil samples using the analytical methods in [NEW RULE VIII] or other methods approved by the department; and

(f) conducting sampling at a greater frequency or conducting treatability studies if the department determines it is necessary to protect human health or the environment.

(11) At the end of each treatment season, the owner or operator of a minor, intermediate, or major landfarm facility shall collect and analyze BTZ soil samples for the contaminants listed in (10)(b). BTZ sampling must be conducted in the following manner:

(a) one composite sample must be collected per 1/2 acre from the BTZ of each treatment cell;

(b) each composite sample must be composed of five subsamples;

(c) all subsamples must be from the same treatment cell;

(d) at least one composite sample must be taken for each treatment cell; and

(e) sampling must protect the liner of the treatment cell and not create a contaminant migration pathway.

(12) If the results of the BTZ sampling indicate the migration of contaminants from the TZ into the BTZ, the owner or operator shall:

(a) notify the department within seven calendar days of receipt of the analytical results;

(b) consult with the department to determine appropriate corrective measures;

(c) collect BTZ soil samples at a rate of five samples per acre and analyze the samples for the contaminants listed in (10)(b);

(d) within 90 calendar days of receipt of the analytical results required in (13), submit to the department an assessment of corrective measures, and the results of the analysis conducted pursuant to (13);

(e) implement the corrective measures within 30 calendar days of

department approval, or another time period approved by the department; and

(f) cease the acceptance of additional contaminated soils at the facility until the department approves the resumption of the receipt of contaminated soils.

(13) If ground water monitoring is required for the facility, the owner or operator of a landfarm facility shall:

(a) analyze ground water samples collected pursuant to [NEW RULE IV]; and

(b) submit to the department the contaminated soil analytical data collected and analyzed for TPH, EPH, VPH, TCLP metals, BTEX, MTBE, and any other contaminants determined by the department to be necessary to protect human health and the environment. Based upon the soil analytical results, the department will determine the analytical requirements necessary for ground water monitoring.

(14) Whenever ground water monitoring indicates the presence of contaminants listed in (13), the owner or operator of the landfarm facility shall notify the department in writing within 14 calendar days of receipt of the analytical results. The notification must include the concentration of the contaminant(s) and the location of the well.

(15) Whenever ground water monitoring indicates contaminants listed in (13) in the ground water in two consecutive sampling events, the owner or operator of the landfarm facility shall consult with the department in the manner provided in ARM 17.50.1308. The assessment of corrective measures must be submitted within 90 calendar days from the date of the receipt of the analytical results from second sampling event.

(16) If the owner or operator of a landfarm facility cannot remedy contaminant migration, the department may require the owner or operator of the landfarm facility to close the treatment cell and remediate any contamination.

(17) The owner or operator of a landfarm facility may apply liquid waste on the treatment cells only if:

(a) the soils undergoing treatment will not be saturated above the field capacity of the soil;

(b) the liquid wastes meet the requirements of [NEW RULE VIII]; and

(c) liquid wastes will be applied only to soils containing similar contaminants.

(18) The owner or operator of a landfarm facility may not use bioremediation agents unless approved by the department prior to application to the treatment zone.

AUTH: 75-10-204, MCA
IMP: 75-10-204, MCA

REASON: Proposed NEW RULE VII sets operation and maintenance plan criteria requirements for landfarm facilities to ensure protection of human health and the environment. Section 75-10-204, MCA, authorizes the department to adopt rules implementing the MSWMA. Landfarm facilities are operations that treat contaminated soil from tank clean-ups, releases, etc., to a standard whereby the treated soil may be used for beneficial purposes and not contribute to the volume of class II landfills.

Proposed NEW RULE VII is necessary to codify landfarm operation and maintenance plan criteria that have been implemented as policy since 1997. The proposed rule codifies these policies and was developed following a review of the

department's actions in coordination with the Montana DEQ's Solid Waste Advisory Committee. For operation and maintenance plan criteria for landfarm facilities, there is no comparable federal regulation or guideline addressing the same circumstances, so the requirements of 75-10-107, MCA, do not apply.

NEW RULE VIII ANALYTICAL METHODS (1) For purposes of this subchapter, the department adopts and incorporates by reference:

(a) Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, EPA publication SW-846, Third Edition, Final Updates I (1993), II (1995), IIA (1994), IIB (1995), III (1997), IIIA (1999), IIIB (2005), IV (2008), and V (2015), which may be obtained at https://www.epa.gov/hw-sw846/sw-846-compendium or by contacting the National Technical Information Service, 5301 Shawnee Road, Alexandria, VA 22312 or 1 (800) 553-687;

(b) Montana Risk-based Corrective Action Guidance for Petroleum Releases, (September 2016) as the analytical methodology landfarms must utilize and Table 1 of the Montana Risk-based Corrective Action Guidance for Petroleum Release as the standards for compliance with remediation requirements outlined in [NEW RULE XI]. A copy of the Montana Risk-based Corrective Action Guidance for Petroleum Releases, (September 2016) may be obtained at http://deq.mt.gov/Land/lust or by contacting MDEQ at P.O. Box 200901, Helena, MT 59620-0901 or 1 (406) 444-6435.

(2) For purposes of this subchapter, the following analytical methods, which are contained in the document referenced in (1) must be used:

(a) arsenic concentrations "Method 7061, Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW-846)";

(b) barium concentrations "Method 6010, Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW-846)";

(c) benzene, toluene, ethylbenzene, and xylene (BTEX), naphthalene, MTBE, and Lead Scavengers 1, 2 DCA and EDB concentrations "Method 8021 or 8260, Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW-846)";

(d) cadmium concentrations "Method 6010, Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW-846)";

(e) chromium concentrations "Method 6010, Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW-846)";

(f) extractable petroleum hydrocarbon (EPH) concentrations Montana modified "Method for Determination of Extractable Petroleum Hydrocarbons, Massachusetts Department of Environmental Protection";

(g) lead concentrations "Method 7421, Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW-846)";

(h) mercury concentrations "Method 7421, Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW-846)";

(i) paint filter liquids test "Method 9095B, Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW-846)";

(j) selenium concentrations "Method 7741, Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW-846)";

(k) silver concentrations "Method 7761, Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW-846)";

(l) total petroleum hydrocarbon (TPH) concentrations "Method 8015, Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW-846)";

(m) volatile petroleum hydrocarbon (VPH) concentrations Montana modified "Method for Determination of Volatile Petroleum Hydrocarbons, Massachusetts Department of Environmental Protection"; and

(n) any other analytical method approved by the department.

AUTH: 17-50-204, MCA
IMP: 17-50-204, MCA

REASON: The department is proposing to include the most up-to-date analytical methods to reflect changes that have occurred since the initiation of the department's solid waste rules to ensure landfarms are protective of human health and the environment. The analytical methods (2)(a) through (n) are standard industry practices and procedures developed and published by EPA.

Landfarm facilities are operations that treat petroleum contaminated soil from tank clean-ups, releases, etc., to a standard whereby the treated soil may be used for beneficial purposes and not contribute to the volume of wastes disposed of in class II landfills. Therefore, the department is proposing to adopt and incorporate by reference Montana Risk-based Corrective Action (RBCA) Guidance for Petroleum Release, Table 1, to protect human health and the environment and to provide consistency for the regulated community. RBCA risk-based screening levels are already used for all petroleum release addressed by the department's Federal Facilities and Brownfields Section, Petroleum Tank Release Section, State Superfund Unit, Enforcement Division, and those petroleum releases addressed by the department's Remediation Division under the Water Quality Act.

The U.S. Environmental Protection Agency (EPA) compiles and updates its Regional Screening Levels tables that represent a consensus throughout the EPA regions regarding toxicity data and methods for calculating screening levels based upon protection of human health. The most current update of these tables is dated November 2015. In September 2009, the EPA released Provisional Peer-Reviewed Toxicity Values for Complex Mixtures of Aliphatic and Aromatic Hydrocarbons. In February 2014, EPA issued the Human Health Evaluation Manual, Supplemental Guidance: Update of Standard Default Exposure Factors. DEQ has determined that it is appropriate to change its risk-based screening levels to more closely follow the most current EPA values. Therefore, the department revised the Montana Risk Based Corrective Action Guidance for Petroleum Release in September 2016 to reflect the current EPA methods.

The goal of RBCA is to identify risks to public health, safety and welfare, and to the environment so they can be reduced. RBCA uses environmental risk analysis, which incorporates elements of toxicology, hydrogeology, chemistry, and engineering to assess the existing and potential risks from a petroleum release. This information is used to develop contaminant concentration levels determined to be acceptable in the State of Montana. Montana has modeled its RBCA screening levels to closely follow EPA's approach.

Table 1 in Montana's RBCA guidance provides specific standards dependent on proximity to ground water (<10 feet, 10-20 feet, or >20 feet) to be more protective of shallower ground water sources. Furthermore, the screening levels are specific for the desired end use whether for residential or commercial to provide a more protective standard for residential uses. Also, the screening levels are specific to as whether the soil contains gasoline and light hydrocarbons or diesel, lead scavengers, and heavy hydrocarbons since movement and leaching vary between these three contaminants. These three categories are further broken down to specifically measure the different chemicals to ensure a thorough examination of the soil.

NEW RULE IX LANDFARM FACILITY STANDARDS (1) The owner or operator of a landfarm facility:

(a) may not place in a treatment cell contaminated soils when the BTZ soils have a hydraulic conductivity less than 1×10^{-5} cm/sec. The owner or operator shall determine hydraulic conductivity by a department-approved method;

(b) may not place in a treatment cell contaminated soils that contain over five percent petroleum hydrocarbons by weight or with concentrations of TPH or VPH and EPH greater than 50,000 ppm without prior approval from the department.

(2) The following table from Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, EPA publication SW-846, Third Edition, Final Updates I (1993), II (1995), IIA (1994), IIB (1995), III (1997), IIIA (1999), IIIB (2005), IV (2008), and V (2015) lists the maximum allowable Toxicity Characteristic Leaching Procedure (TCLP) metals concentration allowed in the treatment zone and BTZ of the treatment cell. The analytical methods listed in Table 4 are defined in [NEW RULE VIII].

TABLE 4

ELEMENT	MAXIMUM TCLP METALS CONCENTRATION (ppm)	ANALYTICAL METHOD
Arsenic	<5.0	7061
Barium	<100	6010
Cadmium	<1.0	6010
Chromium	<5.0	6010
Lead	<5.0	7421
Mercury	<0.2	7421
Selenium	<1.0	7741
Silver	<5.0	7761

(3) Whenever ground water monitoring is required at a landfarm facility, the owner or operator shall construct monitoring wells in accordance with ARM 17.50.1304.

AUTH: 17-50-204, MCA
IMP: 17-50-204, MCA

REASON: Proposed NEW RULE IX sets requirements for facility standards for landfarm facilities to ensure protection of human health and the environment. Section 75-10-204, MCA, authorizes the department to adopt rules implementing the MSWMA. Landfarm facilities are operations that treat contaminated soil from tank clean-ups, releases, etc., to a standard whereby the treated soil may be used for beneficial purposes and not contribute to the volume of class II landfills.

Proposed NEW RULE IX is necessary to codify landfarm facility standards that have been implemented as policy. The proposed rule codifies these policies and was developed following a review of the department's actions in coordination with the Montana DEQ's Solid Waste Advisory Committee. For facility standards for landfarm facilities, there is no comparable federal regulation or guideline addressing the same circumstances, so the requirements of 75-10-107, MCA, do not apply.

NEW RULE X RECORDKEEPING AND REPORTING REQUIREMENTS

(1) The owner or operator of a landfarm facility shall:

(a) maintain an operating record at the facility or at an alternate location approved by the department;

(b) make the operating record available for department inspection during normal business hours. The operating record must contain the following information as it becomes available:

(i) BTZ and ground water sample collection details and analytical results, if required;

(ii) the source, volume, type, and concentration of contaminants for incoming contaminated soils;

(iii) treatment zone information, as follows:

(A) application dates and contaminated soil volume applied;

(B) dates of tillage activities;

(C) quantities and dates applied of carbon to nitrogen to phosphorous (C:N:P) ratio and nutrient addition;

(D) moisture content and irrigation;

(E) soil pH and pH adjustments, if necessary;

(F) quantities and dates of bulking agents added;

(G) addition of bioremediation enhancers or amendments;

(H) information concerning treatment zone maintenance;

(iv) date and volume of treated soils removed from treatment cell; and

(v) any other information determined by the department to be necessary to protect human health or the environment; and

(c) record the following information in the operating record as it becomes available and submit it to the department as part of the annual report required under ARM 17.50.412:

(i) dates and results of all remediation sampling events for each separate volume of contaminated soil under treatment including generator tracking code, type

of contaminant, test methodology, baseline concentration, volume being treated, and months under treatment;

(ii) dates, types, and results of all treatment maintenance activities such as BTZ sampling, C:N:P monitoring, tilling, irrigation, nutrient or bulking supplementation; and

(iii) changes to the site map and operational plan.

AUTH: 75-10-204, MCA
IMP: 75-10-204, MCA

REASON: Proposed NEW RULE X sets recordkeeping and reporting requirements for landfarm facilities for the department to help ensure facilities are in compliance with operation, maintenance and sampling necessary to protect human health and the environment. Section 75-10-204, MCA, authorizes the department to adopt rules implementing the MSWMA. Landfarm facilities are operations that treat contaminated soil from tank clean-ups, releases, etc., to a standard whereby the treated soil may be used for beneficial purposes and not contribute to the volume of class II landfills.

Proposed NEW RULE X is necessary to codify landfarm recordkeeping and reporting requirements that have been implemented as policy. The proposed rule codifies these policies and was developed following a review of the department's actions in coordination with the Montana DEQ's Solid Waste Advisory Committee. For recordkeeping and reporting requirements for landfarm facilities, there is no comparable federal regulation or guideline addressing the same circumstances, so the requirements of 75-10-107, MCA, do not apply.

NEW RULE XI LANDFARM FACILITY REMEDIATION STANDARDS

(1) Contaminated soils are considered remediated when:

(a) contaminant concentrations listed in Montana Risk-based Corrective Action Guidance for Petroleum Releases, Table 1 (September 2016) are permanently reduced to the residential RSBL concentrations.

(2) When contaminated soil remediation in a treatment zone is complete, the owner or operator of a landfarm facility may:

(a) remove the remediated material and replace it with additional contaminated soils for treatment;

(b) apply an additional lift to the treatment zone for treatment if:

(i) the maximum depth of remediated soil within the treatment cell, including the additional lift, does not exceed a depth of five feet; and

(ii) BTZ sampling is conducted pursuant to [NEW RULE IX]; or

(c) close and reclaim the treatment cell.

(3) If the contaminant concentration standards in (1) cannot be attained, the department may approve post-remediation uses for these contaminated soils if the owner or operator of a landfarm facility submits a request to the department that:

(a) demonstrates through analytical results that contaminant degradation has reached a maximum using the analytical methods and standards outlined in [NEW

RULE VIII and IX]; and

(b) verifies the treatment cell and treatment zone are in compliance with this subchapter.

(4) The owner or operator of a landfarm facility may not supply or use soils for any purpose exceeding the contaminant concentrations specified in Montana Risk-based Corrective Action Guidance for Petroleum Releases, Table 1 (September 2016).

(5) The owner or operator of a landfarm facility may not supply, and a person may not use, remediated soils in any location that threaten human health and the environment, for residential topsoil, or for any purpose in school playgrounds or daycare centers.

AUTH: 75-10-204, MCA
IMP: 75-10-204, MCA

REASON: Proposed NEW RULE XI sets requirements for landfarm remediation standards to ensure facilities are cleaned to a level that is protective of human health and the environment. Section 75-10-204, MCA, authorizes the department to adopt rules implementing the MSWMA. Landfarm facilities are operations that treat contaminated soil from tank clean-ups, releases, etc., to a standard whereby the treated soil may be used for beneficial purposes and not contribute to the volume of class II landfills. For remediation standards pertaining to landfarm facilities, there is no comparable federal regulation or guideline addressing the same circumstances, so the requirements of 75-10-107, MCA, do not apply.

Landfarm facilities are operations that treat petroleum contaminated soil from tank clean-ups, releases, etc., to a standard whereby the treated soil may be used for beneficial purposes and not contribute to the volume of wastes disposed of in class II landfills. Therefore, the department is proposing to adopt and incorporate by reference Montana Risk-based Corrective Action (RBCA) Guidance for Petroleum Release, Table 1 to protect human health and the environment and to provide consistency for the regulated community. RBCA risk-based screening levels are already used for all petroleum release addressed by the department's Federal Facilities and Brownfields Section, Petroleum Tank Release Section, State Superfund Unit, and Enforcement Division and those petroleum releases addressed by the department's Remediation Division under the Water Quality Act.

The U.S. Environmental Protection Agency (EPA) compiles and updates its Regional Screening Levels tables that represent a consensus throughout the EPA regions regarding toxicity data and methods for calculating screening levels based upon protection of human health. The most current update of these tables is dated November 2015. In September 2009, the EPA released Provisional Peer-Reviewed Toxicity Values for Complex Mixtures of Aliphatic and Aromatic Hydrocarbons. In February 2014, EPA issued the Human Health Evaluation Manual, Supplemental Guidance: Update of Standard Default Exposure Factors. DEQ has determined that it is appropriate to change its risk-based screening levels to more closely follow the most current EPA values. Therefore, the department revised the Montana Risk-Based Corrective Action Guidance for Petroleum Release in September 2016 to reflect the current EPA methods.

The goal of RBCA is to identify risks to public health, safety, welfare, and to the environment so they can be reduced. RBCA uses environmental risk analysis, which incorporates elements of toxicology, hydrogeology, chemistry, and engineering to assess the existing and potential risks from a petroleum release. This information is used to develop contaminant concentration levels determined to be acceptable in the State of Montana. Montana has modeled its RBCA risk-based screening levels to closely follow EPA's approach.

Table 1 in Montana's RBCA guidance provides specific risk-based screening levels dependent on proximity to ground water (<10 feet, 10-20 feet, or >20 feet) to be more protective of shallower ground water sources. Furthermore, the risk-based screening levels are specific for the desired end use whether for residential or commercial to provide a more protective standard for residential uses. Also, the risk-based screening levels are specific to as whether the soil contains gasoline and light hydrocarbons or diesel, lead scavengers and heavy hydrocarbons since movement and leaching vary between these three contaminants. These three categories are further broken down to specifically measure the different chemicals to ensure a thorough examination of the soil.

NEW RULE XII CLOSURE PLAN (1) For purposes of closure of a landfarm facility, the owner or operator of a landfarm facility shall submit a closure plan that documents the following:

(a) all contaminated soils were remediated pursuant to [NEW RULE XI] standards;

(b) concentrations of TCLP metals in all remediated soils remaining at the facility are below the limits specified in [NEW RULE IX], Table 4 and concentrations of nitrates or phosphorous are below the annual agronomic uptake rate for the established vegetation;

(c) one of the following requirements was satisfied:

(i) all contaminated soils were remediated and removed in accordance with [NEW RULE XI] standards;

(ii) all contaminated soils were remediated to [NEW Rule XI] standards and were subsequently spread and contoured in place; or

(iii) all contaminated soils were remediated to Table 1 residential RSBL concentrations in the Montana Risk-based Corrective Action Guidance for Petroleum Releases, (September 2016) and are capable of supporting native vegetation;

(d) all facility structures, such as cell, berms, and ditches, were reclaimed to pre-operation conditions;

(e) disturbed areas were revegetated with native plant growth or other department-approved species;

(f) final surface grades prevent ponding and erosion; and

(g) any ground water wells not intended for post-closure use were abandoned pursuant to ARM 17.50.1305.

(2) The owner or operator of a landfarm facility shall complete all closure activities within 180 days after commencing closure. Extension of the closure period may be granted by the department if the owner or operator demonstrates that closure will take longer than 180 days and that measures necessary to protect

human health and the environment are maintained.

(3) Upon completion of all activities in the closure plan, the owner or operator of the landfarm facility shall provide written notification to the department that the facility has closed. Final closure is not complete until the department has completed final site inspection verifying the provisions of (1).

AUTH: 75-10-204, MCA
IMP: 75-10-204, MCA

REASON: Proposed NEW RULE XII sets closure plans requirements for landfarm facilities to ensure protection of human health and the environment. Section 75-10-204, MCA, authorizes the department to adopt rules implementing the MSWMA. Landfarm facilities are operations that treat contaminated soil from tank clean-ups, releases, etc., to a standard whereby the treated soil may be used for beneficial purposes and not contribute to the volume of class II landfills.

Proposed NEW RULE XII is necessary to codify landfarm facility closure plan requirements that have been implemented as policy. The proposed rule codifies these policies and was developed following a review of the department's actions under the Montana Environmental Policy Act. For closure plans for landfarm facilities, there is no comparable federal regulation or guideline addressing the same circumstances, so the requirements of 75-10-107, MCA, do not apply.

NEW RULE XIII POST-CLOSURE CARE REQUIREMENTS (1) The owner or operator of a landfarm facility shall:

(a) monitor the reclaimed site for vegetative growth for a minimum of two years after closure. If the revegetation is unsuccessful as determined by the department, the owner or operator shall re-seed and monitor the reclaimed site until the department determines the revegetation is successful;

(b) for a landfarm facility required to monitor ground water, ground water monitoring must be conducted at least semi-annually for a minimum of two years after closure as pursuant to [NEW RULE VII](13);

(c) place documentation of the monitoring in the operating record requirements of ARM 17.50.1106.

AUTH: 75-10-204, MCA
IMP: 75-10-204, MCA

REASON: Proposed NEW RULE XIII sets post-closure plan requirements for landfarm facilities to ensure protection of human health and the environment. Section 75-10-204, MCA, authorizes the department to adopt rules implementing the MSWMA. Landfarm facilities are operations that treat contaminated soil from tank clean-ups, releases, etc., to a standard whereby the treated soil may be used for beneficial purposes and not contribute to the volume of class II landfills.

Proposed NEW RULE XIII is necessary to codify landfarm facility post-closure plan requirements that have been implemented as policy. The proposed rule

codifies these policies and was developed following a review of the department's actions in coordination with the Montana DEQ's Solid Waste Advisory Committee. For post-closure plans for landfarm facilities, there is no comparable federal regulation or guideline addressing the same circumstances, so the requirements of 75-10-107, MCA, do not apply.

NEW RULE XIV FINANCIAL ASSURANCE (1) The owner or operator of a landfarm facility required to conduct ground water monitoring during active life and post-closure care period pursuant to [NEW RULE IV, NEW RULE VII, and NEW RULE XIII], shall obtain financial assurance to ensure adequate financial resources are available for closure and post-closure monitoring.

(2) The financial assurance mechanism must comply with the requirements of ARM 17.50.540.

AUTH: 17-50-204, MCA
IMP: 17-50-204, MCA

REASON: Proposed NEW RULE XIV sets necessary financial assurance requirements for landfarm facilities to ensure protection of human health and the environment. Section 75-10-204, MCA, authorizes the department to adopt rules implementing the MSWMA. Landfarm facilities are operations that treat contaminated soil from tank clean-ups, releases, etc., to a standard whereby the treated soil may be used for beneficial purposes and not contribute to the volume of class II landfills.

For financial assurance for landfarm facilities, there is no comparable federal regulation or guideline addressing the same circumstances, so the requirements of 75-10-107, MCA, do not apply. Furthermore, proposed NEW RULE XIV provides sound mechanisms for ensuring landfarm facilities have the financial means for proper operating and closure procedures to protect human health and the environment.

5. The proposed new rules for a new compost subchapter provide as follows:

NEW RULE XV APPLICABILITY AND SCOPE (1) Except as provided in (2), this subchapter applies to all facilities that compost, or use in a composting process, any organic solid waste that can be biologically decomposed, including yard and garden waste, manure, animal processing by-products, animal mortalities, food waste, biosolids, septage, agricultural waste, and clean wood waste.

(2) This subchapter does not apply to:

(a) on-site household composting;

(b) community garden compost operations;

(c) a business that accepts finished compost for bagging or handling; and

(d) composting when:

(i) compost materials include only barn and farm wastes that are derived from on-site agricultural operations; and

(ii) composting occurs at the site of generation or at contiguous property owned or leased by the generator.

AUTH: 75-10-204, MCA
IMP: 75-10-204, MCA

REASON: Section 75-10-204, MCA, authorizes the department to adopt rules implementing the Montana Solid Waste Management Act (MSWMA). Composting facilities are operations that involve treatment of solid waste in the form of yard waste, landscape waste, biosolids, septage, or food waste residuals to produce a marketable or usable product. Improper operation of a composting facility poses a threat to the environment and human health through release of pathogens or discharge of pollutants to surface and ground water. This proposed rule exempts from licensure, community garden composting and agricultural composting. The department believes that based on size, volume, and the materials being composted, small community garden composting operations pose very little risk to human health or the environment. Section 75-10-214, MCA, excludes legitimate agricultural operations from solid waste management laws and rules. As a result, agricultural composting operations and community garden composting operations are excluded from licensure in this proposal. The department is proposing new rules to protect the human health and environment from the possible adverse impacts from operation of composting facilities. In addition, the department is proposing new rules that reflect technology advancements and changes that have occurred during the last decade.

NEW RULE XVI DEFINITIONS In this subchapter, the following terms apply:

(1) "Active compost" means organic material that is undergoing rapid decomposition in a controlled process.

(2) "Aerated static pile" means a forced aeration method of composting in which a free-standing compost pile is aerated by a blower moving air through perforated pipes located beneath the pile.

(3) "Aerobic" has the meaning provided in ARM 17.50.403.

(4) "Agricultural operations" means the production of plant and animal commodities, including livestock, poultry, or other animals.

(5) "Animal mortality composting" means the composting of wild animals, livestock, or poultry carcasses, including but not limited to: cattle (Bovinae); chicken and turkeys (Phasianidae); goats, sheep, and bison (Bovidae); moose, elk, and deer (Cervidae); and horses (Equidae).

(6) "Barn waste" has the meaning provided in ARM 17.50.403.

(7) "Biogas" is a mixture of carbon dioxide and methane produced during the composting process.

(8) "Biosolids" are nutrient-rich organic materials resulting from the treatment of domestic sewage in a treatment facility.

(9) "Community garden compost operation" means a compost operation located at a community garden or in a neighborhood setting that: has less than one-half acre of working area; accepts less than 40 cubic yards annually; and accepts

only yard and landscape compostable materials, clean and untreated wood chips, or vegetable food wastes.

(10) "Composting" has the meaning provided in ARM 17.50.403.

(11) "Composting amendment" means an ingredient added to raw materials included to improve the overall characteristics of the compost.

(12) "Composting process" means:

(a) static pile composting process;

(b) aerated static pile windrow composting process;

(c) turned windrow composting process;

(d) vermicomposting;

(e) in-vessel compost process; or

(f) other processes approved by the department on a case-by-case basis for the controlled biologic decomposition of organic solid waste.

(13) "Curing" means the final stage of composting in which stabilization of the compost continues, but the rate of decomposition has slowed sufficiently to a point where turning or forced aeration is no longer necessary.

(14) "Facility" has the meaning specified in ARM 17.50.502.

(15) "Farm waste" has the meaning specified in ARM 17.50.403.

(16) "Feedstock" has the meaning provided in ARM 17.50.403.

(17) "Finished compost" is organic material produced by composting to the extent that the material will not reheat due to action of microorganisms when subject to optimum oxygen, moisture, nutrients, and temperature.

(18) "Floodplain" has the meaning provided in ARM 17.50.403.

(19) "Food waste" means food intended for human consumption that is discarded or uneaten.

(20) "Food waste residuals" means waste derived from households, commercial, or industrial facilities, including raw or cooked fruits and vegetables, grain, dairy products, meats, and compostable food service packaging that may be commingled. The term does not include offal from butchering and animal processing facilities.

(21) "Forced aeration" means supplying air to a compost pile or vessel by using blowers to move air through the material being composted.

(22) "Infectious waste" has the meaning specified in 75-10-1003, MCA.

(23) "In-vessel composting process" means a process in which compostable material is enclosed in a drum, silo, bin, or similar container under controlled conditions.

(24) "Leachate" has the meaning specified in ARM 17.50.502.

(25) "Major compost facility" has the meaning specified in ARM 17.50.403.

(26) "Minor compost facility" has the meaning specified in ARM 17.50.403.

(27) "On-site household composting" means the process of converting a family's yard, landscape, or residential food waste into compost within the family's private property.

(28) "Pathogen" means any organism capable of producing disease or infection, including, but not limited to, bacterium, protozoan cyst, parasite, virus, fungus, nematode, or helminth ovum.

(29) "Sewage sludge" or "septage" has the meaning specified in ARM 17.50.802.

(30) "Solid waste management system" has the meaning specified in ARM 17.50.403.

(31) "Vermicomposting" means the process by which worms convert organic waste into a nutrient-rich soil amendment.

(32) "Windrow composting process" means the process in which compostable material is placed in long, narrow, low piles, and aerated mechanically or by a forced aeration system.

(33) "Yard waste" has the meaning specified in ARM 17.50.403.

AUTH: 75-10-204, MCA
IMP: 75-10-204, MCA

REASON: The department is proposing new definitions that reflect technology advancements and changes that have occurred during the last decade. The definitions proposed in New Rule XVI represent the department's review and consideration of regulations adopted in other states and reflects the general guidelines and model rule template proposed by the U.S. Composting Council and the EPA. Composting involves complex biological processes and the proposed definitions are necessary to clarify the scope of the rules and ensure that the rules are protective of human health and the environment.

NEW RULE XVII GENERAL LICENSE REQUIREMENTS FOR COMPOST FACILITIES (1) For purposes of this subchapter, the department adopts and incorporates by reference:

(a) 40 CFR part 503, Appendix B – Pathogen Treatment Process (58 FR 9387, Feb. 19, 1993, as amended at 64 FR 42573, Aug. 4, 1999), which is available at http://www.ecfr.gov/ or by contacting U.S. Government Publishing Office 701 North Capitol Street N.W., Washington, DC or 1 (866) 512-1800.

(2) A person may not construct, expand, or operate a new minor compost facility, animal mortality compost facility, or major compost facility without the applicable license from the department after [the effective date of these rules]. A person operating an existing compost facility must comply with the applicable provisions of the [NEW RULES XV through XXVII] within twelve months after [the effective date of these rules].

(3) A compost facility regulated under this subchapter must employ a low permeability work pad designed and constructed to:

(a) prevent ponding of storm water or leachate below compost to ensure ground water protection;

(b) prevent release or discharge of water that has come into contact with compost to surface water or ground water;

(c) direct storm water or leachate to the appropriate collection system; and

(d) accommodate equipment used by the facility without damage or failure.

(4) A licensed compost facility:

(a) shall comply with all local zoning and land-use laws of the terms of a conditional use permit;

(b) may not be located in wetlands or a floodplain;

(c) may only accept appropriate feedstock necessary for the approved license;

(d) shall ensure finished compost contains no more than two percent sharp or angular inorganic objects;

(e) composting biosolids, septage, sewage sludge, or meeting the definition of a major compost facility provided for in ARM 17.50.403, shall comply with the ground water monitoring provisions in ARM Title 17, chapter 50, subchapter 13 and meet the requirements in 40 CFR part 503, Appendix B – Pathogen Treatment Process (58 FR 9387, Feb. 19, 1993, as amended at 64 FR 42573, Aug. 4, 1999); and

(f) shall locate feedstock receiving or storage areas, composting piles or windrows, or curing or finished compost in accordance with Table 1.

Table 1

Minimum Horizontal Separation Requirements
for Compost Facilities

Item	Separation (feet)
1. Property line	100
2. Property line (animal carcass facility)	300
3. Residence or place of business	500
4. Potable water well or supply	200
5. Surface water body	200
6. Drainage swale	150

(5) The owner or operator of a compost facility shall obtain a Montana pollutant discharge elimination system (MPDES) permit from the department before the facility discharges storm water to state surface waters, or disturbs more than one acre of ground during construction or operation.

(6) The owner or operator of a compost facility located at a licensed solid waste management system (SWMS) shall operate according to the department-approved facility and maintenance plan for the SWMS.

(7) Specific analytical methods described in "Test Methods for Evaluating Solid Waste Physical/Chemical Methods" (SW-846) may be required by the department to characterize incoming feedstock if deemed necessary by the department.

AUTH: 75-10-204, MCA
IMP: 75-10-204, MCA

REASON: Compost facilities merit regulatory control to ensure that best management practices are used to avoid release of pathogens, noxious odors, nutrients, and release of compost leachate to surface and ground water. New Rule XVII notifies applicants of applicable regulatory requirements and sets forth the

minimum license requirements to ensure that composting facilities are planned and located to avoid adverse effects. These general requirements represent a review of other state regulations governing compost facilities and operations and the model rules proposed by the U.S. Composting Council. New Rule XVII seeks to coordinate the requirements of environmentally protective composting regulations with the existing regulatory framework for other solid waste management systems to ensure fairness and consistency.

NEW RULE XVIII MAJOR COMPOST FACILITY FINANCIAL ASSURANCE

(1) The owner or operator of a major compost facility that is required to conduct ground water monitoring during the active life and post-closure care period, pursuant to ARM Title 17, chapter 50, subchapter 13 shall obtain financial assurance prior to commencing composting operations to ensure adequate financial resources are available for closure and post-closure monitoring.

(2) The financial assurance mechanism must comply with the requirements of ARM 17.50.540.

(3) Compost facilities licensed under the provisions of ARM Title 17, chapter 50 prior to [the effective date of these rules] and that are required to conduct ground water monitoring must meet the requirements of (1) and (2) within 12 months of [the effective date of these rules].

AUTH: 75-10-204, MCA
IMP: 75-10-204, MCA

REASON: The potential long term environmental impacts from the operation of major compost facilities merit financial assurance to ensure adequate financial resources are available to cover the costs of closure, post-closure, and ground water monitoring. It is critical to ensure these operations are implemented in a proper manner to protect human health and the environment.

NEW RULE XIX APPLICATION FOR MINOR COMPOST FACILITY LICENSE (1) An applicant for a minor compost facility license shall submit to the department an application for a license. On a form provided by the department, the applicant shall provide at least the following information:

(a) the name, address, and telephone number of each owner or operator, and of one or more persons having the authority to take action in the event of an emergency;

(b) the name of the compost facility, and its physical address, legal description, location with respect to the nearest inhabited area, and the mailing address if different from physical address;

(c) documentation of ownership of the property or documentation demonstrating the applicant has the property owner's approval to operate a minor compost facility on the property;

(d) latitude and longitude of the proposed location;

(e) site map and vicinity map, including facility layout and any drainages;

(f) total acreage of the proposed facility and the total acreage to be used for the composting process;

(g) maximum operational capacity and a description of the types and estimated quantities of feedstock to be composted; seed material or compost starter, if used; in-process compost; and finished compost on-site;

(h) an operation and maintenance plan as required by [NEW RULE XXII];

(i) a closure plan as required by [NEW RULE XXVI]; and

(j) the type of composting process used and the final use of the finished compost.

(2) After review of the application, the department may request any other information necessary to protect human health and the environment.

(3) An applicant shall submit with the application a copy of a proposed policy of general liability insurance to cover bodily injury or property damage to third persons caused by sudden accidental occurrences at the facility that meets the requirements of ARM 17.50.1114.

AUTH: 75-10-204, MCA
IMP: 75-10-204, MCA

REASON: The technical and environmental considerations for minor compost facilities mean that licensing decisions must be based on critical information provided to the department by the applicant. The scope of information required encompasses the practical experience of the department. Specifically, minor compost facilities are more easily managed, have a smaller footprint in a community, and as a result have less of an environmental impact than larger facilities and other regulated solid waste management facilities.

NEW RULE XX APPLICATION FOR ANIMAL MORTALITY COMPOST FACILITY LICENSE (1) An applicant for an animal mortality compost facility license shall submit to the department an application for a license on a form provided by the department and provide at least the following information:

(a) the names, addresses, and telephone numbers of each owner or operator, and the name(s) of one or more persons having the authority to take action in the event of an emergency;

(b) name of the compost facility, physical address, legal description, location with respect to the nearest inhabited area, and the mailing address if different from physical address;

(c) documentation of ownership of the property or documentation demonstrating the applicant has the property owner's approval to operate an animal mortality on the property;

(d) latitude and longitude of the proposed location;

(e) site map and vicinity map, including facility layout and any drainages;

(f) total acreage of the proposed facility and the total acreage to be used for the composting process;

(g) maximum operational capacity and a description of the types and estimated quantities of feedstock to be composted, seed material or compost starter,

if used, in-process compost, and finished compost on-site;

(h) operation and maintenance plan as required by [NEW RULE XXII];

(i) closure plan as required by [NEW RULE XXVI];

(j) type of composting process used and the final use of the finished compost; and

(2) After an application review, the department may request any other information necessary to protect human health and the environment.

(3) An applicant shall submit with the application a copy of a proposed policy of general liability insurance to cover bodily injury or property damage to third persons caused by sudden accidental occurrences at the facility that meets the requirements of ARM 17.50.1114.

AUTH: 75-10-204, MCA
IMP: 75-10-204, MCA

REASON: The department is proposing NEW RULE XX for the same reasons as proposed in NEW RULE XIX.

NEW RULE XXI APPLICATION FOR MAJOR COMPOST FACILITY LICENSE (1) An applicant for a major compost facility license shall submit to the department for approval an application for a license on a form provided by the department and provide at least the following information:

(a) names, addresses, and telephone numbers of each owner or operator, and one or more persons having the authority to take action in the event of an emergency;

(b) legal description and ownership status of the proposed location, including the land owner's name and address and documentation demonstrating that the applicant has approval to operate a major composting facility on the property;

(c) names, addresses, and contact information of abutting property owners;

(d) total acreage of the proposed facility and total acreage to be used for the composting process;

(e) a ground water monitoring plan or a demonstration meeting the requirements of ARM 17.50.1303;

(f) a 1:24,000 site map that delineates within one mile of the proposed facility boundaries basic information including:

(i) surface water, potable and monitoring wells, wetlands, and floodplains;

(ii) residences, fences, buildings, roads, bridges, railroads, airports, and historic sites;

(iii) proposed buildings, fences, roads, and parking areas;

(iv) drainages and culverts;

(v) storage and loading facilities or areas; and

(vi) direction of prevailing winds;

(g) closure and post-closure care plans;

(h) an operation and maintenance plan that meets the requirements of [NEW RULE XXII].

(2) An applicant shall submit with the application a copy of a proposed policy

of general liability insurance to cover bodily injury or property damage to third persons caused by sudden accidental occurrences at the facility that meets the requirements of ARM 17.50.1114.

AUTH: 75-10-204, MCA
IMP: 75-10-204, MCA

REASON: The technical and environmental considerations for major compost facilities mean that licensing decisions must be based on critical information provided to the department by the applicant. Major compost facilities require a site characterization to evaluate the need and timing for ground water monitoring and additional site-specific controls to ensure that the facility is designed, constructed, and operated in a way that is protective of human health and the environment.

NEW RULE XXII OPERATION AND MAINTENANCE PLAN FOR COMPOST FACILITIES (1) The owner or operator of a compost facility regulated under this subchapter shall submit an operation and maintenance plan that includes the following information:

(a) description of measures to:

(i) prevent storm water flow or run-off onto the operation during peak discharge from a 25-year, 24-hour storm event;

(ii) contain and manage leachate generated when precipitation comes in contact with composting materials or feedstock;

(iii) control on-site and prevent offsite nuisance conditions such as noise, dust, odors, vectors, and windblown debris;

(iv) prevent water pollution at and beyond the site boundaries;

(v) control access to prevent unauthorized site access and illegal dumping; and

(vi) minimize nuisance odors and to reduce the likelihood such odors will impact receptors;

(b) description of the composting procedures specifically defining all activities, and periods of non-activity; including:

(i) description of personnel required and their responsibilities;

(ii) estimated traffic volume, plan for entrance and egress, and procedures for unloading trucks;

(iii) procedures for operation during wind, heavy rain, snow, or freezing conditions;

(iv) description of the method(s) for maintaining compost piles at 45 percent to 60 percent moisture content;

(v) a plan for frequency and temperature regime as required by [NEW RULE XXIV] Table 3;

(vi) a plan for testing finished compost for weed seed and pathogen destruction, trace metals, compost stabilization, herbicide residuals, and applicable compost sampling and analysis requirements as required by [NEW RULE XXIV];

(vii) a list of equipment available for use;

(viii) a detailed description of the windrow construction, if used; and

(ix) a process flow diagram of the entire process for in-vessel systems, if used; and

(x) location of compost facility records outlined in [NEW RULE X];

(c) maximum operational capacity and a description of the types of feedstocks to be composted including estimated quantities of:

(i) feedstocks;

(ii) in-process compost;

(iii) finished compost on-site; and

(iv) seed material or compost starter if used;

(d) a description of the scales or other means used to document the quantity of output of finished product;

(e) a description of the finished product use;

(f) the method of aeration;

(g) plan for the removal and disposal of solid waste and finished compost that cannot be used in the expected manner;

(h) contingency plans that describe the corrective or remedial procedures to be taken in the event of:

(i) the delivery of unapproved feedstock;

(ii) contamination of surface water or ground water; and

(iii) the occurrence of nuisance conditions;

(i) a description of monitoring that will occur involving the composting process of the site;

(j) a site map with contours, delineating boundaries of:

(i) the composting area, feedstock, and other stockpiles in relation to property boundary;

(ii) on-site drainage flow paths for leachate or storm water;

(iii) direction of prevailing winds by season;

(iv) access roads and on-site roads;

(v) location of water supply wells, buildings, residences, surface water bodies, and drainage swales within 1,000-feet of the site; and

(vi) identification of all current and proposed facility buildings.

(2) The owner or operator of a composting facility shall review the operation and maintenance plan every five years after the date of the issuance of the license to determine if significant changes in the operation have occurred. If the review indicates that significant changes have occurred, the owner or operator shall update the operation and maintenance plan to reflect the changes and submit the update to the department for approval. If the review does not indicate significant changes have occurred, the owner or operator shall inform the department in writing that the operation and maintenance plan has been reviewed and an update is not necessary.

(3) If the department determines that changes to the operation and maintenance plan are necessary to protect human health or the environment, the department shall notify owners and operators in writing of the new requirements. An owner or operator must update the operation and maintenance plan to reflect changed conditions and requirements and submit the changes to the department for approval within 45 days of receiving the written notice from the department.

(4) An owner or operator of an animal mortality composting facility shall also

submit the following information as part of the operation and maintenance plan required in (1):

(a) the source location of the animal mortalities to be accepted by the facility;

(b) a description of the hormones, antibiotics, diseases, or euthanasia drug compounds that may be present in the animal mortality or by-products that the facility will accept;

(c) the intended distribution and use of the final compost; and

(d) methods and controls to prevent animal scavenging at the facility.

AUTH: 75-10-204, MCA
IMP: 75-10-204, MCA

REASON: The department is proposing New Rule XXII to ensure that licensees operate and maintain compost facilities in a manner that avoids the negative effects of pathogens, noxious odors, or contamination of surface and ground water. Proposed NEW RULE XXII sets operation and maintenance plan criteria requirements for compost facilities to ensure protection of human health and the environment. Section 75-10-204, MCA, authorizes the department to adopt rules implementing the MSWMA. Proposed NEW RULE XXII is necessary to codify compost operation and maintenance plan criteria that is currently being implemented as policy. The proposed rule codifies these policies and was developed following a review of the department's actions and coordination with the Petroleum Release Board and Petroleum Consultants. For operation and maintenance plan criteria for compost facilities, there is no comparable federal regulation or guideline addressing the same circumstances, so the requirements of 75-10-107, MCA, do not apply.

NEW RULE XXIII RECORDKEEPING AND ANNUAL REPORTING REQUIREMENTS (1) The owner or operator of a compost facility subject to the provisions of this subchapter shall submit to the department an annual report on a form provided by the department by April 1 of each year.

(2) The owner or operator of a compost facility shall maintain the following records on site or in a location provided in the application, and these records must be made available to the department for inspection during normal business hours:

(a) type and amount of feedstock(s) and bulking material(s) received, processed, and remaining on-site;

(b) amount of finished compost sold or distributed offsite;

(c) any ground or surface water quality monitoring data;

(d) compost analytical data;

(e) operational monitoring data, including composting time and temperature measurements according to the parameters outlined in the operations and maintenance plan;

(f) windrow or pile aeration data;

(g) financial assurance documentation, if required;

(h) operations and maintenance plan;

(i) closure plan; and

(j) any other information determined by the department to be necessary to

protect human health and the environment.

AUTH: 75-10-204, MCA
IMP: 75-10-204, MCA

REASON: The possible environmental effects associated with operation of a compost facility means that it is prudent to require compost facilities to keep records of their operations. The record keeping requirement promotes operation of the facility according to license conditions and best management practices, as well as provides critical information that aids the department in regulating facilities and ensuring facilities are not having negative impacts on human health and the environment.

NEW RULE XXIV SAMPLING AND ANALYSIS REQUIREMENTS FOR COMPOST FACILITIES (1) For purposes of this subchapter, the department adopts and incorporates by reference:

(a) The United States Department of Agriculture Natural Resources Conservation Service Montana Operation and Maintenance Guide for Composting Facility (MT EFH, 4/14) available at https://www.nrcs.usda.gov/wps/portal/nrcs/site/mt/home/ or by contacting NRCS Montana USDA Natural Resources Conservation Service, 10 East Babcock Street, Room 443, Bozeman, MT 59715-4704 or 1 (406) 587-6811; and

(b) US EPA Class A standard, 40 CFR 503.13, Table 2 which may be obtained at https://www.gpo.gov/fdsys/granule/CFR-2010-title40-vol29/CFR-2010-title40-vol29-sec503-13 or by contacting the National Technical Information Service, 5301 Shawnee Road, Alexandria, VA 22312 or 1 (800) 553-6847.

(2) The owner or operator of a licensed compost facility must sample and analyze compost material based on the size and frequency requirements in Table 3, and verify that the finished compost meets the minimum standards established in Table 4:A through 4:E based on the type of licensed compost facility.

(3) Sampling procedures must be described in the facility's operation and maintenance plan and produce valid and representative analytical results.

(4) The following requirements apply to finished compost:

(a) minor compost facilities – Table 4:D;

(b) animal mortality compost facilities – Table 4:C through 4:E;

(c) major compost facilities – Table 4:A through 4:E; and

(d) facilities composting biosolids – Table 4:A through 4:E.

(5) The department may require sampling and analysis of additional constituents as determined to be necessary to protect human health and the environment.

(6) When finished compost exceeds the applicable minimum standards identified in Table 4:A through 4:E based on the facility type, the owner or operator shall:

(a) reintroduce the material back into the active composting process;

(b) dispose of the material at a licensed Class II solid waste management facility; or

(c) otherwise use the material in a manner approved by the department.

Table 3:

TESTING FREQUENCY FOR COMPOST FACILITIES

Finished Compost	Frequency
Less than 5,000 cubic yards	annually
5,000 – 10,000 cubic yards	semiannually
10,000 + cubic yards	quarterly

Table 4:A

TEMPERATURE

- High temperatures (133°F for 3 days minimum) are required to destroy pathogenic microbes;
- High temperatures (>145°F) are required to destroy weed seeds/plants; and
- Temperatures that are too high (>160°F) shall require turning or other incorporation of air. If the pile gets too hot it will shut down (if moist and hot) and or combust.

Table 4:B

MAXIMUM CONSTITUENT CONCENTRATION FOR COMPOST SOLD OR DISTRIBUTED FOR OFFSITE USE
HEAVY METALS

Parameter	Unit	Limit	Test Method found in EPA's SW-846
Arsenic	mg/kg	41	EPA dry wt. 6010A or 7061A; or EPA 3050 and 6010A or 7061A
Cadmium	mg/kg	39	AOAC 975.03B(b) and EPA dry wt. 6010A or 7130; or EPA 3050 and 6010A or 7130
Chromium	mg/kg	1200	EPA dry wt. 6010A or 7190; or EPA 3050 and 6010A or 7190
Copper	mg/kg dry wt	1500	EPA 6010A or 7210; or EPA 3050 and 6010A or 7210
Lead	mg/kg dry wt	300	EPA 6010A or 7420 or 7421; or EPA 3050 and 6010A or 7420 or 7421
Mercury	mg/kg dry wt	17	EPA 7471A

Molybdenum	mg/kg dry wt	54	EPA 6010A or 7480 or 7481; or EPA 6010A or 7480 or 7481; or EPA 3050 and 6010A or 7480 or 7481.
Nickel	mg/kg dry wt	420	EPA 6010A or 7520; or EPA 3050 and 6010A or 7520
Selenium	mg/kg dry wt	100	EPA 7740 or 7741A; or EPA 3050 and 7740 or 7741A
Zinc	mg/kg dry wt	2800	EPA 6010A or 7950; or EPA 3050 and EPA 6010A or 7950

Table 4:C

PATHOGENS

- The owner or operator of a compost operation shall ensure that:
- the density of the fecal coliform present in the compost is less than 1,000 most probable number (mpn) per gram of total solids (dry weight basis); or
- the density of *Salmonella* species bacteria in the compost is less than three mpn per four grams of total solids (dry weight basis) at the time the compost is to be sold or otherwise distributed for use.
- Upon request of the department the licensee shall test any other disease agents determined by the source of animal mortality.

Table 4:D

COMPOST PROPERTIES

Parameter	**Units**	**Potting Grade[1/]**	**Mulch/Top Dressing[2/]**	**Soil Amendment[3/]**
pH	pH units	6-8.5	5.5-9.0	6-8.5
Moisture content	%, wet weight basis	30-60	30-60	30-60
Organic Matter Content	%, dry weight basis	30-65	>than 30	30-65
Soluble Salt Concentration	dS/m (mmhos/cm)	<6	<10	<10

Particle Size	% passing a selected mesh size, dry weight basis	99%<1/2"	99% <3" 25%+| <3/8"	99% <3/4"
Physical Contaminants (inert material)	%, dry weight basis	<1	<1	<1
Stability Indicator CO_2 Evolution Rate	mg CO_2 -C per g OM per day	<8	<8	<8
Nutrient content (total N, P2O5, K2O, Ca, Mg)	%, dry weight	No limit, just informational.	No limit, just informational.	No limit, just informational.

[1/] Potting Grade: Compost used within a blend of materials to formulate a potting mix or seed bed. Compost should not exceed 20-30% of the mix. Soluble Salt content of the mix should not exceed 2.5 dS/cm to 4 dS/cm depending on the plants to be grown.
[2/] Mulch/Top Dressing: Compost is applied to the soil surface to help inhibit weed growth, conserve soil moisture, and reduce soil erosion. Compost is typically applied at a 1-2 inch thickness. Contact with tree trunks or plant stems should be avoided.
[3/] Soil Amendment: Compost is incorporated into the soil to improve soil quality (organic matter, water-holding capacity, aeration, drainage, and cation exchange capacity). Typical blends for soil amendment use is one part compost to two parts soil.

Table 4:E

RESIDUAL HERBICIDES

Parameter	**Units**	**Potting Grade[1/]**	**Mulch/Top Dressing[2/]**	**Soil Amendment[3/]**
Maturity Indicator (bioassay) Seed Emergence Seedling Vigor	%, relative to positive control %, relative to positive control	Minimum 80 Minimum 80	Minimum 80 Minimum 80	Minimum 80 Minimum 80

(7) Compost that contains sewage sludge or septage must meet the requirements in 40 CFR part 503 Appendix B – Pathogen Treatment Process (58 FR 9387, Feb. 19, 1993, as amended at 64 FR 42573, Aug. 4, 1999).

AUTH: 75-10-204, MCA
IMP: 75-10-204, MCA

REASON: Standards for compost processing are necessary to minimize the negative impacts associated with pathogens and other constituents of concern and to ensure human health and the environment are adequately protected.

The department is proposing rules to ensure compost facility operations periodically analyze its finished compost and must notify the department that the minimum standards set forth in the tables are met. This action will inform the facility and the department whether mitigation measures are needed in the event the composts exhibit levels of pathogens and metals that may be dangerous to human health and the environment.

Table 4:A are U.S. EPA Class A standard, 40 CFR 503.13, Tables 2 and 4 levels (Arsenic 41 ppm, Cadmium 39 ppm, Copper 1500 ppm, Lead 300 ppm, Mercury 17 ppm, Molybdenum 75 ppm, Nickel 420 ppm, Selenium 100 ppm, Zinc 2,800 ppm).

Standards for Table 4:B through 4:E are based on the standards from the United States Department of Agriculture and Montana's Natural Resources Conservation Service "Operation and Maintenance Guide for Your Composting Facility." These standards were developed using the following references: "On-Farm Composting Handbook, NRAES-54", June 1992 E&A Environmental Consultants. Landscape Architect Specifications for Compost Utilization, Dec. 1997 and Prepared for Clean Washington Center (CWC) and the U.S. Composting Council.

NEW RULE XXV TEMPORARY SUSPENSION OF OPERATIONS (1) The owner or operator of a compost facility may temporarily suspend acceptance of compostable materials up to 180 days without having to implement a closure plan.

(2) An owner or operator who exceeds the 180-day limit provided in (1) shall:

(a) comply with the provisions in [NEW RULE XXVI]; and

(b) notify the department that operations have been temporarily suspended if:

(i) no compostable materials will be received for 180 days; or

(ii) seasonal or weather conditions keep the effective operation of a compost facility from functioning according to [this subchapter].

(3) During suspension, the facility may not create a public nuisance or a health hazard.

(4) The owner or operator of a compost facility shall notify the department of the intention to resume operations at a temporarily suspended facility 30 days prior to accepting or managing compostable materials.

AUTH: 75-10-204, MCA
IMP: 75-10-204, MCA

REASON: The department is proposing NEW RULE XXV to allow an owner or operator of a compost facility to temporarily suspend operations with the intention of re-opening within a 180-day period. Weather conditions, availability of compostable materials, and the effectiveness of compost activities all affect the successful operation of a facility licensed under these proposed rules. The option to have a seasonal facility provides greater flexibility and lessens the burden on the regulated community. Additionally, the department is proposing operation and maintenance regulations for seasonal facilities to protect human health and the environment. Facilities that temporarily suspend operations must notify the department when they are preparing to re-open and continue operations to aid the department in regulating and tracking seasonal facilities.

NEW RULE XXVI CLOSURE PLAN (1) A closure plan must contain a description of all steps necessary to achieve closure of the compost facility including, but not limited to the removal, abandonment, or restoration of all:

(a) stored material;

(b) other wastes generated by the closure of the composting facility;

(c) work pad or lined areas;

(d) storm water control and leachate collection structures;

(e) ground water monitoring wells, if necessary, pursuant to ARM Title 17, chapter 50, subchapter 13;

(f) other structures and equipment;

(g) vegetation and grade that existed prior to operation; and

(h) any other steps determined by the department to be necessary to protect human health or the environment.

(2) The owner or operator of a compost facility that has not received, processed, or otherwise is not accepting composting materials at a compost facility, for more than 180 days, shall:

(a) notify the department in writing of the intent to close the facility; and

(b) begin implementation of the facility's closure plan.

(3) The owner or operator of a compost facility shall complete closure within 180 days after commencing closure. Extension of the closure period may be granted by the department if the owner or operator demonstrates that closure will take longer than 180 days, and that measures necessary to protect human health and the environment shall be maintained.

(4) Upon completion of all activities in the closure plan, the owner or operator of the composting facility shall provide written notification to the department that the facility has closed. Closure is not complete until the department has completed a final site inspection verifying the provisions of (2).

AUTH: 75-10-204, MCA
IMP: 75-10-204, MCA

REASON: Identifying the requirements and procedures for determining when a compost facility is no longer operating and how a facility is closed are necessary to protect human health and the environment. In addition, because the rules require financial assurance for major compost facilities and ground water monitoring, it is necessary to set forth the requirements for facility closure to facilitate release of the financial assurance mechanism.

NEW RULE XXVII POST-CLOSURE CARE AND MAINTENANCE (1) The owner or operator of a compost facility subject to the provisions of ARM Title 17, chapter 50, subchapter 13, shall conduct post-closure care and maintenance for two years, or a longer period as the department determines necessary to protect human health or the environment. During the post-closure care period, the owner or operator shall:

(a) continue to monitor and sample ground water or surface water, if applicable; and

(b) inspect and maintain any cover material or vegetation.

AUTH: 75-10-204, MCA
IMP: 75-10-204, MCA

REASON: Identifying the requirements and procedures for post-closure care of a composting facility are necessary to protect public health and the environment. In addition, because the rules require financial assurance for the monitoring of ground water at certain composting facilities, it is necessary to set forth the requirements for post-closure care to facilitate planning for an appropriate amount of money and the release of the mechanism for financial assurance.

6. Concerned persons may submit their data, views, or arguments, either orally or in writing, at the hearing. Written data, views, or arguments may also be submitted to Denise Hartman, Administrative Rules Coordinator, Department of Environmental Quality, 1520 E. Sixth Avenue, P.O. Box 200901, Helena, Montana 59620-0901; faxed to (406) 444-4386; or e-mailed to dhartman2@mt.gov, no later than 5:00 p.m., February 3, 2017. To be guaranteed consideration, mailed comments must be postmarked on or before that date.

7. The department maintains a list of interested persons who wish to receive notices of rulemaking actions proposed by this agency. Persons who wish to have their name added to the list shall make a written request that includes the name, e-mail, and mailing address of the person to receive notices and specifies that the person wishes to receive notices regarding: air quality; hazardous waste/waste oil; asbestos control; water/wastewater treatment plant operator certification; solid waste; junk vehicles; infectious waste; public water supplies; public sewage systems regulation; hard rock (metal) mine reclamation; major facility siting; opencut mine reclamation; strip mine reclamation; subdivisions; renewable energy grants/loans; wastewater treatment or safe drinking water revolving grants and loans; water quality; CECRA; underground/above ground storage tanks; MEPA; or general

procedural rules other than MEPA. Notices will be sent by e-mail unless a mailing preference is noted in the request. Such written request may be mailed or delivered to Denise Hartman, Administrative Rules Coordinator, Department of Environmental Quality, 1520 E. Sixth Ave., P.O. Box 200901, Helena, Montana 59620-0901, faxed to the office at (406) 444-4386, e-mailed to Denise Hartman at dhartman2@mt.gov; or may be made by completing a request form at any rules hearing held by the department.

8. Brad Jones, attorney for the Department of Environmental Quality, has been designated to preside over and conduct the hearing.

9. The bill sponsor contact requirements of 2-4-302, MCA, do not apply.

10. With regard to the requirements of 2-4-111, MCA, the department has determined that the amendment and adoption of the above-referenced rules will not significantly and directly impact small businesses.

Reviewed by:

DEPARTMENT OF ENVIRONMENTAL QUALITY

/s/ John F. North
JOHN F. NORTH
Rule Reviewer

BY: */s/ Tom Livers*
TOM LIVERS, Director

Certified to the Secretary of State, December 27, 2016.